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Teachers' Creativity: Different Approaches and Similar Results

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Abstract

Analyse teachers' perceived creativity and factors related to it. Two hundred and sixty one teachers participated in the study. Participants completed an anonymous questionnaire. Procedures of cluster analysis and linear regression analysis were employed. The data allow the conclusion to be drawn that it is purposeful to define three types of general education teachers, i.e. teachers who are highly creative and value driven but work in an environment inhibiting creativity, those who are highly creative, motivated to work and have sufficient resources, and those that lack motivation, notwithstanding environmental encouragement for creativity. Creative self-efficacy and positive emotions are predictors of perceived creativity.

Keywords: general education, creativity, self-efficacy, motivation, organizational climate

1. Introduction

Creativity and innovations play an important role in European educational policy. It has been recognized that schools and initial education play a key role in fostering and developing people's creative and innovative capacities for further learning and their working lives. General education teachers have outstanding opportunities to develop and facilitate the creative abilities of every child. The Definition and exploration of teachers' creativity has become an important area of scientific inquiry in behavioural sciences.

The concepts of creative teaching and teaching for creativity are frequently used in current educational discourse. According to Cremin (2009), creative teaching "involves teachers in making learning more interesting and effective and using imaginative approaches in the classroom". Creative teaching is about the teacher's personality, personal creativity and its manifestations in everyday practice. Teaching for creativity "is seen to involve teachers in identifying children's creative strengths and fostering their creativity" (Cremin, 2009). Teaching for creativity is one of the most important priorities and is a heavily researched area in the scientific literature worldwide (e.g. Zachopoulou et al., 2006; Hodges Kulinna, 2008). Teaching for creativity becomes possible only if teachers are willing to teach creatively. There is an agreement that creative teaching has four features, namely relevance, ownership, control and innovation (Cremin, 2009). The personal creativity of the teacher is the main premise of creative teaching (Craft, 2009). Creative teaching manifests itself in the everyday activities of the teacher (Craft, 2009) and facilitates the personal development of the students in spiritual, moral, social and cultural domains (Eaude, 2009). Creative teaching is clearly conceptualized but little is known about the preconditions of the phenomenon.

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Historically, there is a common assumption that creativity comes from an interaction between personal and social factors. Little is known about the factors that predict teachers' creativity. But the evidence points to work motivation (Lapeniene, 2011; Hong, Hartzell & Greene, 2009), epistemological beliefs (Hong, Hartzell & Greene, 2009), awareness (Tahereh & Mahnoush, 2012), self-confidence (Tahereh & Mahnoush, 2012), organizational climate (Lapeniene, 2010) and leadership style (Mousavi, Heidary & Khamse Pour, 2011). Personal factors are considered to be more important than social ones (Lapeniene, 2011), but the data reveal inconsistencies and complexities. One of the possible answers to the puzzle of factors related to creativity is to distinguish different types of creative teachers. Unsworth (2001) introduced the classification of creativity types which can be identified and explored in the workplace. Responsive creativity is "the externally driven, closed-problem field in which the participant responds to the requirements of the situation and to the presented problem" (Unsworth, 2001). Some teachers show responsive creativity because of the formal requirements to facilitate students' creativity. Expected creativity "is brought about via an external expectation, but with a self-discovered problem" (Unsworth, 2001). Teachers show expected creativity because it helps to raise motivation and make learning more interesting. At the same time, formal encouragement for creativity also motivates teaching creatively. Contributory creativity "is self-determined and based upon a clearly formulated problem" (Unsworth, 2001). Contributory creativity can be shown when teachers work in teams and try to solve problems beyond the classroom. Collaboration, teamwork, shared responsibility and commitment are associated with contributory creativity (Unsworth, 2001). Proactive creativity "occurs when individuals, driven by internal motivators, actively search for problems to solve" (Unsworth, 2001). Proactively creative teachers use their personal creativity as the key resource for improving educational practice. Creativity is important and valuable on its own, but not because of reward or school arrangements. Different types of creativity suggest that different combinations of individual and social factors predict creative teaching.

The claims of Unsworth (2001) and other authors led to the following hypotheses being made:

H1: It is possible to distinguish more than one type of creative teacher using the unique combination of individual and social factors, related to creativity.

H2: The type of teacher creativity determines which factors predict creative teaching.

2. Methodology

2.1. Subjects

The subjects of the study are teachers of general education working in Kaunas city, Lithuania. Three hundred and fifty teachers were selected for the study using a random selection method. The goal of the study was explained to the teachers and they were invited to participate in the study. Two hundred and sixty-one teachers returned the questionnaires suitable for statistical analysis. 11% of the subjects were men and 89% were women. The average length of service in the sample was 42 years. The majority of subjects (67%) were qualified as senior teachers.

2.2. Instruments

Twelve scales were used in the study. All the scales were developed by the first author and validated in previous studies (Lapėnienė & Laskienė, 2009; Lapėnienė & Bruneckienė, 2010; Lapeniene, 2011). The scales measure perceived creativity and individual factors, e.g. creative self-efficacy, work motivation and emotions, and characteristics of the school environment, e.g. work group support, organizational encouragement, supervisory encouragement, sufficient resources, accessibility of supervisors, and perceived co-worker creativity expectations.

2.3. Procedure

The study was conducted by permission of the Education and Training Department Director at Kaunas City Municipality. All the subjects were informed about the aims of the investigation and were acquainted with the instructions for filling in the questionnaire. The survey followed the ethical and legal principles of social research. It was specified when and how it was necessary to return the questionnaire. It was emphasized to all teachers participating in the study that participation was voluntary and that they could withdraw from the study.

3. Results

3.1. Results of cluster analysis

Cluster analysis was used in order to distinguish the types of general education teachers and to compare the differences in factors affecting creativity. Three types of teacher were distinguished. The first type corresponds to the concept of proactive creativity, introduced by Unsworth (2001). Proactive teachers work in an environment inhibiting creativity, i.e. managers do not show individual consideration for teachers, which does not encourage creativity in the workplace. The teachers lack resources for creativity and creative work is not considered to be one of the priorities at school. These teachers are highly creative; they indicate high levels of creative self-efficacy and work motivation. Goal internalization motivation is the dominant source of work motivation. The teachers are able to work creatively and they prefer creative work to conventional methods. The second type of teacher demonstrates expected creativity (Unsworth, 2001). These teachers are also highly creative, but their creativity is encouraged by the social environment in the organization. The teachers are encouraged to be creative by their supervisors and creativity is considered to be a priority in school; sufficient resources are provided for creative work. These teachers also indicate high levels of goal internalization motivation and positive emotionality. The last type of teacher indicates contributory creativity (Unsworth, 2001). They indicate lower levels of personal creativity and work motivation but higher levels of work group support, accessibility of supervisors and supervisory encouragement. It is possible that the teachers doubt in personal creativity but are committed to working creatively, like their colleagues.

The three types of creative teacher indicate differently the level of perceived creativity and related factors. The means of the scales in each group are presented in the table.

Table 1. Means of the scales

Scale	Proactively creative teachers sample mean	Expectedly creative teachers sample mean	Contributedly creative teachers sample mean
Perceived creativity	4.24	4.23	3.82
Creative self-efficacy	3.66	3.82	3.35
Negative emotions	2.77	2.37	2.96
Positive emotions	3.88	4.01	3.29
Extrinsic motivation	3.41	3.90	3.09
Goal internalization motivation	4.42	4.47	3.87
Perceived co-worker creativity expectations	3.93	3.98	2.97
Work group support	3.17	3.65	3.29
Accessibility of supervisor	3.06	3.75	3.42
Sufficient resources	2.9	4.19	3.57
Organizational encouragement	2.25	3.72	3.01
Supervisory encouragement	2.66	3.99	3.32

The means of the scales were compared using a one-way ANOVA test with Bonferroni criterion. Statistically significant differences were estimated in three types of teachers in the scales ($p<0.05$), except for the positive and negative emotion scales. Comparing the means of the positive and negative emotion scales in the groups of expectedly creative and contributed creative teachers, no statistically significant differences ($p<0.05$) were estimated.

3.2. Regression results

Linear regression was used in order to compare predictive relations in the three groups of teachers. Firstly, it was important to estimate which factors predict creativity in the group of proactively creative teachers. Using the enter method, a significant model emerged: $F(2,46) = 17{,}139$, $p<0.001$. The model explains 43% of the variance (Adjusted $R^2 = 0.427$). Table 2 gives information about the predictor variables entered into the model.

Table 2. The unstandardized and standardized regression coefficients for the variables entered into the model of proactive creativity

Scale	Unstandardized Coefficients (B)	Standard Error	Standardized Coefficients (β)
Creative self-efficacy	0,343	0,074	0,544
Positive emotions	0,132	0,067	0,232

Only two variables had a significant effect ($p<0.05$), i.e. creative self-efficacy and positive emotions. Creative self-efficacy has relatively higher predictive power than positive emotions. The model has little to say about preconditions of proactive creativity.

For the group of expectedly creative teachers the same method was used. A significant model emerged: $F(4.84) = 38.658$, $p<0.001$. The model explains 63% of the variance (Adjusted $R^2 = 0.631$). Table 3 gives information about the predictor variables entered into the model.

Table 3. The unstandardized and standardized regression coefficients for the variables entered into the model of expected creativity

Scale	Unstandardized Coefficients (B)	Standard Error	Standardized Coefficients (β)
Creative self-efficacy	0,322	0,061	0,399
Goal internalization motivation	0,453	0,081	0,420
Positive emotions	0,101	0,051	0,152
Sufficient resources	0,105	0,047	0,149

Expected creativity can be predicted using the variables of creative self-efficacy, goal internalization motivation, positive emotions and sufficient resources. Goal internalization motivation has relatively higher predictive power than the three other variables. The model shows the importance of individual factors for expected creativity and discloses the influence of resources on creativity.

For the group of responsively creative teachers, the enter method was also used. A significant model emerged: $F(4.68) = 33.920$, $p<0.001$. The model explains 65% of the variance (Adjusted $R^2 = 0.647$). Table 4 gives information about the predictor variables entered into the model.

Table 4. The unstandardized and standardized regression coefficients for the variables entered into the model of contributory creativity

Scale	Unstandardized Coefficients (B)	Standard Error	Standardized Coefficients (β)
Creative self-efficacy	0,565	0,090	0,466
Goal internalization motivation	0,757	0,086	0,711
Extrinsic motivation	-0,270	0,068	-0,312
Negative emotions	-0,125	0,060	-0,155

Contributory creativity can be predicted using creative self-efficacy, goal internalization motivation, extrinsic motivation and negative emotion variables. In this case, extrinsic motivation and negative emotions have negative predictive relationships.

4. Discussion/Conclusions

The results of the study confirmed the hypotheses and proved that it is appropriate to define three types of teachers' creativity. The first type is proactive creativity. Proactively creative teachers indicate the highest levels of creativity even when working in a creativity-inhibiting social environment. There is some evidence in the literature claiming that creativity is related to traits and other non-cognitive personality constructs (Puccio & Grivas, 2009; Kipper, Green & Prorak, 2010; Davis, Kaufman & McClure, 2011; Prabhu, Sutton & Sauser, 2008). Proactive creativity is trait-like and rooted in personality variables. Social environment has a minor impact on proactive creativity but not on expected or contributory creativity. The impact of social environment refers to the difference between the two types of creative teachers. Teachers showing expected creativity do so not only because of creative self-efficacy, goal internalization motivation for pedagogical practice or positive emotions. Sufficient resources are also very important. Expectedly creative teachers indicate the same levels of creativity as proactively creative teachers, but the presuppositions are different. Proactive teachers do not give prominence to rewards, resources and policy priorities, but expectedly creative teachers do.

It is claimed that various social contexts facilitate or inhibit personal creativity. The systems model of creativity (Csikszentmihalyi, 1996) encourages analysis of the systemic nature of creativity and recognizes the fact that an individual is only a part of the system. The evidence shows the influence of the social environment on creativity at cultural (e.g. Chen Tsai, 2012; Kola-Bezka, 2011), social (e.g. Venckūnas, 2011) and organizational (e.g. Ohly,

Kase & Škerlavaj, 2010; Hirst, van Dick & van Knippenberg, 2009) levels. Social influence best manifests itself in the case of contributory creativity where the intrinsic motivation principle (Amabile, 1996) is fully valid. Teachers showing contributory creativity are driven by goal internalization motivation and creative self-efficacy, but extrinsic motivation and negative emotions inhibit their creativity.

The presented study has enriched the understanding of creative teachers and preconditions of the phenomenon. However, the study has limitations. Firstly, a limited number of variables was measured during the study. There are many variables which can relate to creativity that were not investigated in the study. Secondly, we used a paper and pencil test for the measurement of the variables. Self-evaluation may differ from actual behavior. Thirdly, all the subjects work in Kaunas city, which is the second largest city in Lithuania. These teachers have many opportunities for lifelong learning, professional development and other facilities which may be inaccessible for teachers working in different areas. Despite these shortcomings, the study provides valuable insights for future studies.

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